

We claim:

1. A method for controlling the operation of a burner for heating the liquid glass feeders coming from a glass furnace, the said burner being fed with a combustibile gas and with oxygen, characterized in that an additional gas is injected as a complement to the oxygen so that the sum of the additional gas, oxygen and combustibile gas flow rates is greater than or equal to the minimum flow rate D_{MIN} for cooling the burner.
2. The method as claimed in claim 1, characterized in that the additional gas is chosen from at least one of the following gases: air, carbon dioxide, argon, helium and nitrogen.
3. The method as claimed in claim 1 or 2, characterized in that the additional gas is mixed with the oxygen before it is brought into contact with the fuel.
4. The method as claimed in one of the preceding claims, characterized in that the value of D_{MIN} is set according to the fuel flow rate.
5. The method as claimed in one of the preceding claims, characterized in that the sum of the additional gas flow rate and of the oxygen flow rate is greater than or equal to the minimum flow rate D_{MIN} for cooling the burner.
6. The method as claimed in one of the preceding claims, characterized in that the additional gas flow rate is controlled by a pressure regulator inserted in the line for delivering oxygen to the burner.
7. The method as claimed in one of the preceding claims, characterized in that the burner comprises:

- a first duct for passage of the oxygen;
 - a second duct, coaxial with the first duct and placed inside the said first duct, for passage of the fuel;
- 5 the end of the said second duct being placed set back from the end of the first duct.

8. The method as claimed in one of claims 1 to 6, characterized in that the burner comprises:

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- a first duct for passage of the oxygen;
 - a second duct, coaxial with the first duct and placed inside the said first duct, for passage of the fuel;
 - an end-fitting placed at the end of the first
- 15 duct;
- a nozzle placed at the end of the second duct;
 - a means for making the fuel swirl, placed on the nozzle at the end of the second duct.

20 9. The method as claimed in claim 8, characterized in that the means for making the fuel swirl comprises an object of elongate shape centered aerodynamically inside the nozzle of the second duct, the inside diameter of the said nozzle being greater than the

25 diameter of the object of elongate shape of the means for making the fuel swirl.

10. The method as claimed in claim 9, characterized in that the object of elongate shape of the means for

30 making the fuel swirl comprises at least one helical rod over a portion of its length.

11. The method as claimed in one of claims 8 to 10, characterized in that the burner includes a means for

35 making the oxidizer swirl, placed on the end-fitting on the end of the first duct.

12. A combustion system comprising:

- an oxyfuel burner;
- a means for feeding the burner with fuel;
- a means for feeding the burner with oxidizer, cooperating with an oxygen feed means and an additional gas feed means;
- a means for measuring the flow rate of at least the oxygen or the fuel; and
- a means for controlling the additional gas flow rate.

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13. The combustion system as claimed in claim 12, characterized in that the means for controlling the additional gas flow rate is slaved to the means for measuring the flow rate of at least the oxygen or the fuel.

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14. The combustion system as claimed in claim 12 or 13, characterized in that the means for controlling the additional gas flow rate is a pressure regulator.

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15. The combustion system as claimed in claim 12 or 13, characterized in that the means for controlling the additional gas flow rate is a servovalve.

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16. Use of the system as claimed in one of claims 12 to 15 for heating the liquid glass feeders coming from a glass furnace.